WARRANTY ON MEDIA AND DOCUMENT

Apple will cover physical defects in the media distributed with an Apple product for ninety (90) days. If the media on which a software product is distributed is found, Apple will replace the media or the item to be replaced at no charge to you, provided you return the item to be replaced with proof of purchase to Apple or an authorized Apple dealer during the 90-day period after you purchased the software. In addition, Apple will replace damaged software media for as long as the software product is included in Apple's Media Exchange Program. While not an upgrade or substitute method, this program offers you continued protection for up to two years or more from the date of your original purchase. See your authorized Apple dealer for program coverage and details. In some countries the replacement period may be different. Check with your authorized Apple dealer for details.

ALL IMPLIED WARRANTIES ON THE MEDIA AND MANUALS, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO NINETY (90) DAYS FROM THE DATE OF THE ORIGINAL RETAIL PURCHASE OF THIS PRODUCT.

Even though Apple has tested the software and reviewed the documentation, **APPLE MAKES NO WARRANTY OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO SOFTWARE, ITS QUALITY, PERFORMANCE, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. AS A RESULT, THIS SOFTWARE IS SOLD "AS IS," AND YOU THE PURCHASER ARE ASSUMING THE ENTIRE RISK AS TO ITS QUALITY AND PERFORMANCE.**

IN NO EVENT WILL APPLE BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT IN THE SOFTWARE OR ITS DOCUMENTATION, even if advised of the possibility of such damages. In particular, Apple shall have no liability for any programs or data stored in or used with Apple products, including the costs of recovering such programs or data.

THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHERS, ORAL OR WRITTEN, EXPRESS OR IMPLIED. No Apple dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty.

Some states do not allow the exclusion or limitation of implied warranties or liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

030-3361-A

Road Map to A/UX® Documentation

030-3361-A

APPLE COMPUTER, INC.

© Apple Computer, Inc., 1989
20525 Mariani Ave.
Cupertino, California 95014
(408) 996-1010

Apple, AppleTalk, A/UX, the Apple logo, ImageWriter, LaserWriter, Macintosh, and MacTerminal are registered trademarks of Apple Computer, Inc.

Apple Desktop Bus and APDA are trademarks of Apple Computer, Inc.

B-NET is a registered trademark of UniSoft Corporation.

ITC Avant Garde Gothic, ITC Garamond, and ITC Zapf Dingbats are registered trademarks of International Typeface Corporation.

Microsoft is a registered trademark of Microsoft Corporation.

NFS is a registered trademark, and Sun Microsystems is a trademark of Sun Microsystems, Inc.

POSTSCRIPT is a registered trademark, and TRANSCRIPT and Illustrator are trademarks, of Adobe Systems Incorporated.

UNIX is a registered trademark of AT&T Information Systems.

Simultaneously published in the United States and Canada.

030-3361-A

Contents

Figures and tables v

Preface vii

About this guide vii
Who should read this guide viii

Chapter 1 A Road Map to A/UX Publications 1-1

Getting the news 1-3
A/UX Release Notes 1-4
The ReadMe file 1-5
Preparing for your journey: setting up your A/UX system 1-6
A/UX Installation Guide 1-7
Setting out 1-8
Getting Started With A/UX 1-9
User territory 1-10
A/UX Text Editing Tools 1-11
A/UX User Interface 1-12
A/UX Communications User's Guide 1-13
A/UX Text Processing Tools 1-14
A/UX Command Reference 1-15
A/UX Reference Summary and Index 1-16
Administrator territory 1-17
A/UX Local System Administration 1-18
A/UX Network System Administration 1-20
A/UX System Administrator's Reference 1-21
Programmer territory 1-22
A/UX Programming Languages and Tools, Volume 1 1-24
A/UX Programming Languages and Tools, Volume 2 1-26
A/UX Toolbox: Macintosh ROM Interface 1-27
A/UX Programmer's Reference 1-28

030-3361-A

Developer territory 1-29
Building A/UX Device Drivers 1-30
A/UX Network Applications Programming 1-31
A/UX Guide to POSIX 1-32
Other A/UX-related manuals 1-33
Road Map to A/UX Publications 1-33
Portable Operating system Interface for Computer Environments 1-34
X Window System User's Guide for A/UX 1-35
X Window Reference for A/UX 1-36

Chapter 2 How to Order A/UX Publications 2-1

Documentation sources 2-1
Authorized A/UX dealers 2-1
APDA 2-2
Sources for related documents 2-2
The right sources for your books 2-3
Mainstream A/UX manuals 2-4
User and administrator guides 2-5
Technical guides and reference manuals 2-6
Specialized A/UX manuals 2-6
A/UX-related manuals from Apple 2-7

Index I-1

Figures and tables

Chapter 1 A Road Map to A/UX Publications 1-1

Figure 1-1 A/UX documentation road map 1-1

Chapter 2 How to Order A/UX Publications 2-1

Figure 2-1 A/UX User and Administrator Manuals product 2
Figure 2-2 A/UX Technical and Reference Manuals product
Table 2-1 A/UX documentation sources 2-3

Preface

A/UX® is Apple® Computer's version of the industry-standard AT&T UNIX® System V Release 2 operating system. To the standard System V features Apple Computer has added its own unique extensions. A/UX also incorporates many important extensions of the Berkeley Software Distribution (BSD) version of the UNIX operating system.

A/UX and its set of related utilities provide a vast and powerful computing environment with features for a wide variety of users who have differing levels of computing experience. For example, the system is likely to be used by first-time users and people who have used UNIX for years, by UNIX programmers and Macintosh® programmers, and by single-system administrators and network administrators. The many features of A/UX could easily overwhelm all but the very experienced. To accommodate the needs of these varied users, Apple provides an extensive library consisting of more than 6000 pages to document the rich feature set of A/UX.

About this guide

This road map is your guide to the manuals in the A/UX library. It abstracts each manual, suggests which manuals are appropriate to which readers, and explains how to order the manuals.

Chapter 1, "A Road Map to A/UX Publications," introduces the entire set of A/UX publications. The chapter then describes each manual in detail to tell you what is in the manual, why you might need to read it, where to find it, and which manual you should read next.

Chapter 2, "How to Order A/UX Publications," shows how the manuals are packaged and how you order them.

Who should read this guide

Road Map to A/UX Documentation is intended for anybody with an interest in A/UX. This road map can help direct you to the information you seek, whether you want to develop a complete application program to run on A/UX or you just want to know what A/UX is.

Chapter 1

A Road Map to A/UX Publications

This guide is a road map to the entire set of A/UX publications. The road map can help you navigate through the numerous volumes that accompany the A/UX software.

Think of the documentation as consisting of two main categories: guides and references. Both types of books are organized by topic so, based on what you need to do, you can pick which book to use.

If you are new to the UNIX operating system, you should start with the guides. These guides help you explore specific areas of A/UX. They describe the resources available, the benefits they offer, and—with examples, sample sessions, and explicit instructions—how to use the various facilities offered by A/UX.

If you already know your way around UNIX systems, you may not need any guides. Instead, the reference manuals may be all you use. The reference manuals list and explain in a terse manner the A/UX commands, system calls, libraries, and subroutines.

Used properly, these manuals can lead you to a thorough understanding of A/UX. The map in Figure 1-1 shows the territories you traverse on your journey to A/UX expertise. Subsequent pages in this chapter describe the guides and reference materials that appear on this map.

- *On-line documentation:* A/UX also offers on-line documentation for all of its commands. This feature is like a pocket guide; you can use it at any time on your journey to get the information you need. You simply enter the `man` and `apropos` commands, with the name of any other A/UX command, to display this on-line documentation on your screen.

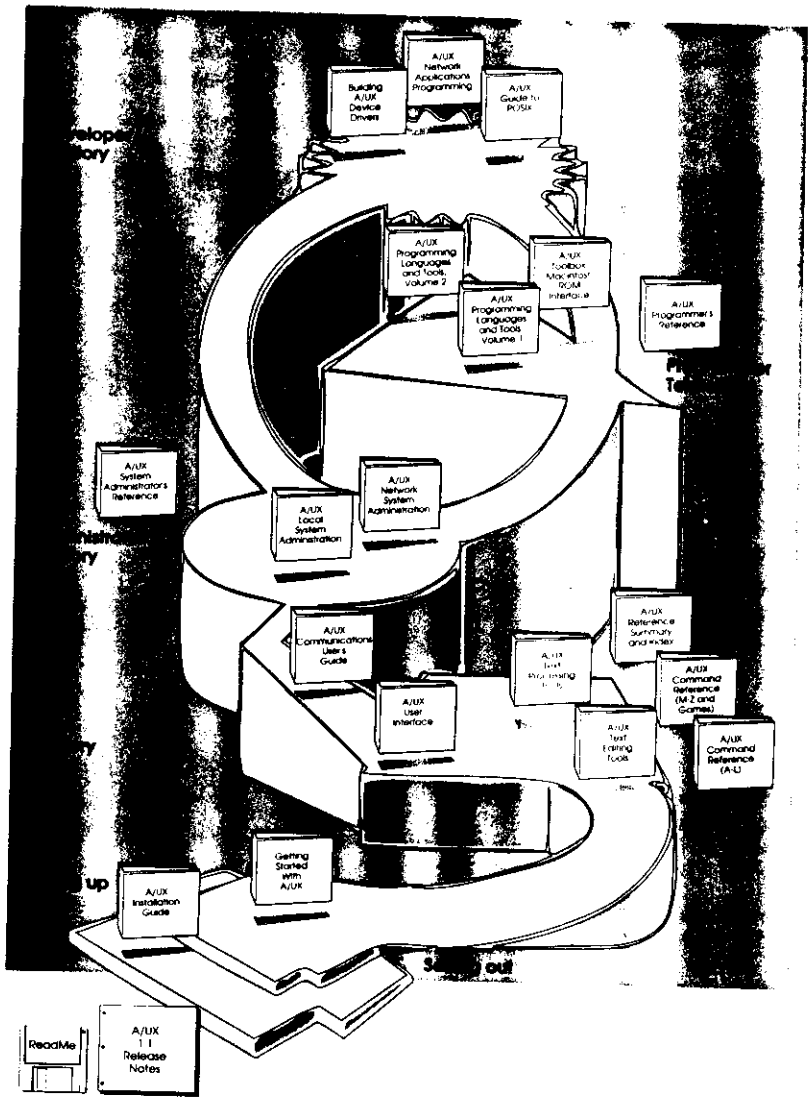

A/UX System Administrator's Reference
A/UX Local System Administration
A/UX Network System Administration
A/UX Communications User's Guide
A/UX User Interface
A/UX Reference Summary and Index
A/UX Command Reference (M-Z and Games)
A/UX Command Reference (A-L)
A/UX Programmer's Reference
A/UX Programming Languages and Tools, Volume 2
A/UX Programming Languages and Tools, Volume 1
A/UX Network Applications Programming
Building A/UX Device Drivers
Getting Started with A/UX
A/UX Installation Guide
ReadMe
A/UX 1.1 Release Notes

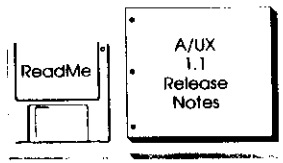
Figure 1-1
A/UX documentation road map

Getting the news

Before you start any journey, it is a good idea to check on the latest goings-on in the places you intend to travel. In the UNIX world, new developments occur almost daily. Some of these developments occur after press time and cannot be documented in the usual fashion, so they are presented separately in a different format.

You get the latest A/UX news from two sources, both of which are found in the A/UX Accessory Kit:

- *A/UX Release Notes*
- the ReadMe file



Getting the latest A/UX news

A/UX Release Notes

A/UX Release Notes bring you late-breaking news about the current release of A/UX. If you are the only person using your A/UX system or if you are the system administrator, you should skim through this document before installing or using your A/UX system.

If you are not the system administrator, you probably do not need to read the release notes or the ReadMe file. You can go directly to *Getting Started With A/UX*. Your system administrator can alert you to any news you need to know.

A/UX Release Notes are not bound. They are loose pages designed to fit into a section of *A/UX Local System Administration* called "Notes."

What's in it

A/UX Release Notes cover

- recent additions and changes to the system
- tips for using the system effectively

Where to find it

A/UX Release Notes are packed in the A/UX Accessory Kit that accompanies every A/UX system.

Where to go next

You should read the ReadMe file next.

The ReadMe file

Once you have read *A/UX Release Notes*, you should read the information in the ReadMe File. The ReadMe file is a time-honored tradition in UNIX history. This file provides you with the latest possible information about your system.

What's in it

The ReadMe file covers

- the latest changes to the system
- tips for using the system effectively
- warnings and workarounds for potential software problems

Where to find it

You can find the ReadMe file in your A/UX Accessory Kit on the floppy disk labeled *A/UX ReadMe*. This disk is meant to be used with the Macintosh Operating System (Macintosh OS), so you can read the file before you ever get to A/UX.

You don't need a word processor to read the ReadMe file. Simply find its icon and double-click on it.

Where to go next

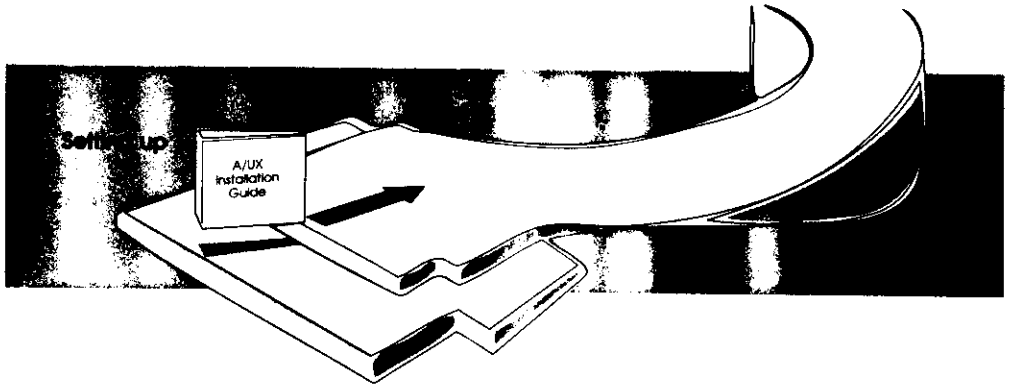
If your system has not been installed or if you have received an update to the latest version of A/UX, read *A/UX Installation Guide* so that you can proceed with the installation or update.

If your system is running, you should read *Getting Started With A/UX*.

Preparing for your journey: setting up your A/UX system

Before you can work with A/UX, it must be installed on your workstation. In the past, a site running a multiuser system like the UNIX operating system required an expert administrator to install and maintain the system for all other users. The advent of low-cost workstations, however, has brought the power of the UNIX operating system to the desktops of individual users.

If you are the sole user of your system, you may need to install the A/UX system or an A/UX update yourself. You need *A/UX Installation Guide* to complete the installation properly. Installing the A/UX system and A/UX updates is usually very simple—if you don't have special requirements, you can complete the installation in less than an hour.



Setting up your A/UX system

A/UX Installation Guide

A/UX Installation Guide explains in step-by-step detail how to set up your hardware, how to install A/UX and start it for the first time, how to install a new release to update your A/UX system, and how to perform some basic administration duties for getting started quickly.

You should read *A/UX Release Notes* and the ReadMe file before installing or using A/UX.

What's in it

A/UX Installation Guide covers

- hardware installation
- software installation
- software configuration
- system startup and shutdown
- optional configurations
- software update installation

Where to find it

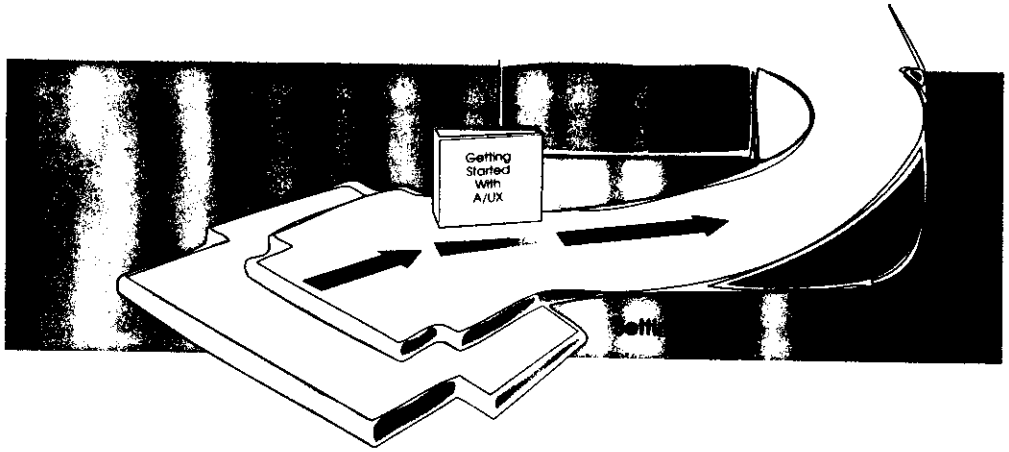
A/UX Installation Guide is packed in the A/UX Accessory Kit that accompanies every A/UX system.

Where to go next

You should read *Getting Started With A/UX* next.

Setting out

After your system is set up and you have read the late-breaking A/UX information, the preparations are finished—you are ready to start your journey. Whether you are an experienced UNIX user or have never used a computer, your starting point for A/UX is, appropriately, *Getting Started With A/UX*.



Setting out on the A/UX trail

Getting Started With A/UX

All A/UX users should start by reading *Getting Started With A/UX*. If you are completely unfamiliar with either the UNIX operating system or the Macintosh operating system, this guide can be a great help in quickly learning the fundamentals of A/UX.

If you are an experienced UNIX user, you probably should read the first two chapters for a list of A/UX features, complete the Macintosh tutorial, and then skip the rest of this book.

What's in it

This guide presents

- a tour of A/UX
- an overview of the differences between A/UX and other versions of UNIX
- a hands-on tutorial for the Macintosh Operating System
- a hands-on tutorial for A/UX
- A/UX commands for learning about the system
- the hierarchical file system
- file editing with `vi`
- `mail`, a message-delivery program
- setting up an account
- A/UX Toolbox utilities
- a glossary of terms used in the A/UX documentation

Where to find it

Getting Started With A/UX is packed with other A/UX guides as part of the A/UX User and Administrator Manuals (order number M0676), available from your authorized A/UX dealer.

Where to go next

If you are new to A/UX and you are not the system administrator, you should move on into user territory.

If you are new to A/UX but you are the system administrator, you should skim through *A/UX Local System Administration*, and then spend some time in user territory.

If you are an experienced UNIX user, you should first look at *A/UX Local System Administration* for information specific to A/UX, and then go on to your area of interest.

User territory

After installing A/UX and consulting *Getting Started With A/UX*, you are ready to make use of the A/UX utilities and application programs. Four guides, a reference, and an index are available to assist you:

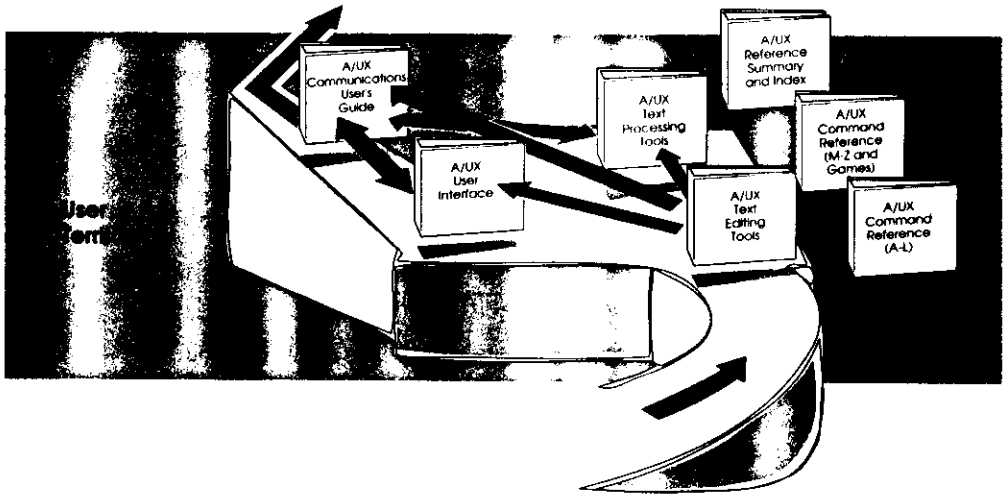
- *A/UX Text Editing Tools*
- *A/UX User Interface*
- *A/UX Communications User's Guide*
- *A/UX Text Processing Tools*
- *A/UX Command Reference* (a two-volume book)
- *A/UX Reference Summary and Index*

Regardless of your experience, you should refer from time to time to *A/UX Command Reference*, a two-volume manual that describes all the user commands of A/UX.

If you are an experienced UNIX user, you probably do not need any of the guides.

If you are not familiar with a text editor, such as `vi`, you should read *A/UX Text Editing Tools*.

If you already know how to use one of the A/UX editors, you should read *A/UX User Interface* next to learn to use at least one shell program and *A/UX Communications User's Guide* to learn about the communications and networking capabilities of A/UX.


A/UX Communications User's Guide
A/UX Reference Summary and Index
A/UX Text Processing Tools
A/UX Command Reference (M-Z and Games)
A/UX User Interface
A/UX Text Editing Tools
A/UX Command Reference (A-L)

User territory

A/UX Text Editing Tools

A/UX provides several editors for entering and manipulating text: `vi`, `ex`, `ed`, and `sed`. With these editors, you can create and edit files that can become executable programs, or that can be formatted and printed with all the polish of a formal publication. To assist new users, *A/UX Text Editing Tools* offers detailed instructions and explanatory sample sessions for using these editors.

You need to know at least one editor to use A/UX effectively (`vi` is recommended). If you are not familiar with one of the A/UX editors, you should read this guide.

If you are familiar with one of the interactive editors, you may wish to learn `sed`, a batch editor, and then read *A/UX User Interface* to learn *shell scripting*, a high-level form of programming.

What's in it

This guide covers

- differences between the text editors
- `ed`, an interactive line editor
- `ex`, an interactive line editor that is the basis of `vi`
- `vi`, an interactive full-screen editor
- `sed`, a batch stream editor

Where to find it

A/UX Text Editing Tools is packed with other A/UX guides as part of the A/UX User and Administrator Manuals (order number M0676), available from your authorized A/UX dealer.

Where to go next

If your primary use for A/UX is to produce high-quality printed documents, you should read *A/UX Text Processing Tools*.

If your primary interest is in the data-processing capabilities of A/UX, you should read *A/UX User Interface*.

If you are familiar with one of the A/UX shells, you should read the parts of *A/UX Communications User's Guide* that apply to your installation. If you have a network administrator, that person can guide you to the right sections.

A/UX User Interface

A program known as a *shell* provides interactive access to the features of A/UX through a command-line interface. The shell can also execute high-level programs, called *shell scripts*. Three shells are provided with A/UX: the Bourne shell, the C shell, and the Korn shell. Each shell provides slightly different features, and has its advocates among UNIX users.

A guide to the A/UX shell programs, *A/UX User Interface* serves as an excellent introduction to the uses and possible configurations of the shells. The guide is also useful when you need to refresh your memory or need to perform some particular task.

If you have completed the A/UX tutorial in *Getting Started With A/UX*, you should read the introduction to this guide to learn more about the shells.

If you want to write your own software tools but you are not familiar with shell scripts, you should read about one of the shells. If you have a system administrator, that person can probably suggest which shell would be best for your needs.

If you want to become familiar with a new shell, you should read about the differences between the shells, and then read the section pertaining to the shell you want to learn.

What's in it

This guide covers

- differences between the shells
- the Bourne shell
- the Korn shell
- the C shell
- `shl`, a program for shell layering

Where to find it

A/UX User Interface is packed with other A/UX guides as part of the A/UX User and Administrator Manuals (order number M0676), available from your authorized A/UX dealer.

Where to go next

If your system is not connected to a network, you may want to read the in-depth discussion of the `mail` utility in *A/UX Communications User's Guide* before going on to either *A/UX Text Processing Tools* or *A/UX Local System Administration*.

If your system is connected to a network, you should read the parts of *A/UX Communications User's Guide* that apply to your installation. Your network administrator should be able to guide you to the right sections.

A/UX Communications User's Guide

One of the most important aspects of A/UX is its ability to offer communication services to users sharing a single A/UX system and to users whose computers or terminals are connected together over a network. A/UX offers a variety of communications and networking features. *A/UX Communications User's Guide* describes these features.

A/UX Communications User's Guide has chapters on communications between users on the local A/UX system, serial communications between several machines, and TCP/IP network communications (called *B-NET* in this implementation) between machines on local area and wide area networks.

Some or all of the networking topics may not apply to your site. Your system or network administrator can tell you which ones are applicable.

What's in it

This guide covers

- `mail`, a message-delivery program
- TCP/IP (B-NET), a protocol suite with related utilities for remote login, file transfer, and process execution
- `uucp`, a utility for transferring files between UNIX systems
- `cu`, a utility for remote login to UNIX hosts
- `slip`, a program for serial line access to a network

Where to find it

A/UX Communications User's Guide is packed with other A/UX guides as part of the A/UX User and Administrator Manuals (order number M0676), available from your authorized A/UX dealer.

Where to go next

If you haven't read *A/UX User Interface*, you should read it before progressing to *A/UX Local System Administration* to gain a better understanding of A/UX as a system.

A/UX Text Processing Tools

A/UX provides the text-formatting tools that make up AT&T's Documentor's Workbench (DWB), version 2.0. A/UX also includes other text-processing tools such as `grap`, for printing graphs, and TranScript™, for printing to the Apple LaserWriter® printer (and other printers that use the PostScript® page-description language). *A/UX Text Processing Tools* describes these formatting and graphics tools.

These tools enable you to add true formatting to documents that you produce on A/UX. For example, you can specify fonts, character sizes, and character styles for your printed documents, as well as incorporate graphics.

You should read this guide if you are familiar with one of the A/UX text editors (described in *A/UX Text Editing Tools*) and you want to produce printed documents with the formatting enhancements just described.

What's in it

This guide covers

- `nroff` and `troff`, text-formatting utilities
- `troff` and the `mm` macro package
- `tbl`, the table-formatting program; `eqn`, the mathematics typesetting program; `pic`, the line-drawing program; `grap`, the graph-drawing program; and `ms`, a macro package
- other related tools and commands

Where to find it

A/UX Text Processing Tools is packed with other A/UX guides as part of the A/UX User and Administrator Manuals (order number M0676), available from your authorized A/UX dealer.

Where to go next

If you haven't read *A/UX User Interface*, you should read it before progressing to *A/UX Local System Administration* to gain a better understanding of A/UX as a system.

A/UX Command Reference

A/UX Command Reference is an encyclopedic reference to all of the system's user utilities. The format of this two-volume work encourages quick access to information, but it does not lend itself to long reading.

This reference includes user-level network commands and the available games, but it does not cover privileged system administration commands, which are covered instead in *A/UX System Administrator's Reference*.

You should keep this reference at hand whenever you use A/UX.

What's in it

A/UX Command Reference corresponds to Sections 1 and 6 of the user manual traditionally distributed with UNIX systems.

This reference contains

- descriptions of all A/UX commands that you can execute without special privileges
- descriptions of the games distributed with A/UX

Where to find it

A/UX Command Reference is packed with other A/UX guides and reference manuals as part of the A/UX Technical and Reference Manuals (order number M0694), available from your authorized A/UX dealer.

A/UX Reference Summary and Index

A/UX Reference Summary and Index is an index to all the A/UX references. The format of this index encourages quick access to information, but it does not lend itself to long reading.

You should keep this index at hand whenever you use A/UX.

What's in it

This index contains

- a list of all A/UX commands, organized by function
- synopses of all A/UX commands, organized alphabetically, describing the syntax and general purpose of each command
- synopses of all A/UX routines, organized alphabetically, describing the general purpose of each routine
- an index to commands

Where to find it

A/UX Reference Summary and Index is packed with other A/UX guides and reference manuals as part of the A/UX Technical and Reference Manuals (order number M0694), available from your authorized A/UX dealer.

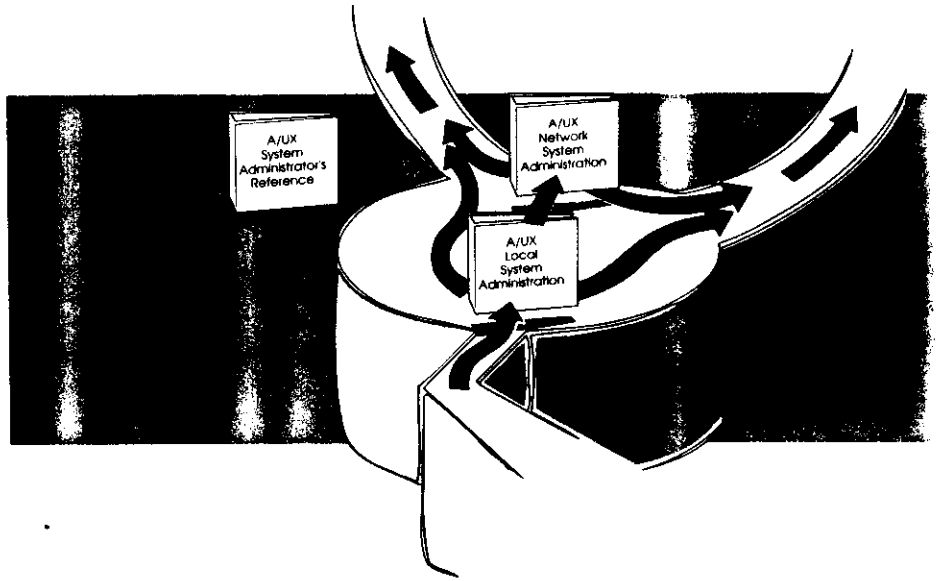
Administrator territory

An administrator must perform certain tasks to keep any computer system functioning smoothly. The A/UX system-administration tasks include bringing up a system, adding and removing users, adding and removing devices, and making and mounting file systems. The A/UX network-administration tasks include setting up, maintaining, and troubleshooting networks. Two guides and a reference are available to assist the A/UX administrator:

- *A/UX Local System Administration*
- *A/UX Network System Administration*
- *A/UX System Administrator's Reference*

If you are the sole A/UX user on your computer, you must perform the system administration. If there are several users on your system, an administrator must be designated for your system. Whoever serves as system administrator needs to be familiar with *A/UX Local System Administration* and *A/UX System Administrator's Reference*.

If your A/UX system is part of a network, a network administrator must be designated. That person should be familiar with *A/UX Network System Administration*, as well as with *A/UX Local System Administration* and *A/UX System Administrator's Reference*.



A/UX Local System Administration

A/UX Local System Administration explains the basic duties of the system administrator and describes the System V facilities to monitor and maintain a single system. A companion guide, *A/UX Network System Administration,* covers network-related topics.

This guide is written for users who are charged with administering A/UX. Although features such as autoconfiguration and autorecovery have greatly simplified system administration on A/UX, the administrator's job is not an easy or rote task.

If you are the only user on your system, you are probably the system administrator. If you are not a seasoned UNIX user, refer to this guide to keep your A/UX system running smoothly.

If you have already administered a System V UNIX system, this guide can help you to understand the aspects of administration unique to A/UX and to fine-tune your A/UX system.

◆ *Note:* While performing system administration tasks, you should keep *A/UX System Administrator's Reference* at hand. You should also be familiar with the file format information in Section 4 of *A/UX Programmer's Reference.*

What's in it

This guide covers

- startup and shutdown
- user administration
- backups
- peripheral-device management
- file-system checking
- system accounting
- the system activity package
- setup and administration for `uucp`
- kernel warning and error messages

Where to find it

A/UX Local System Administration is packed with other A/UX guides as part of the A/UX User and Administrator Manuals (order number M0676), available from your authorized A/UX dealer.

Where to go next

After reading *A/UX Local System Administration,* you should know all you need to know to use and maintain your A/UX system with confidence. If you want to learn the more advanced features of the system, you can venture into programmer territory to learn the many powerful programming capabilities of A/UX, or you can continue further into administrator territory to learn network administration.

To learn about the A/UX programming environment, you should start with *A/UX Programming Languages and Tools, Volume 1.*

If you want to learn about network administration, you should read *A/UX Network System Administration.*

A/UX Network System Administration

A/UX Network System Administration describes the procedures and commands necessary to keep networking software running smoothly under A/UX; the guide does *not* describe how to maintain network hardware.

While a system administrator is needed for each A/UX system, each system does not require its own network administrator. Instead, a single network administrator generally performs all of the networking duties for several or all of the machines connected on a network.

You should read this guide if you are charged with administering a computer network that includes A/UX systems.

What's in it

This guide covers

- setting up, maintaining, and troubleshooting a simple network
- setting up and using AppleTalk®
- setting up and using TCP/IP software utilities
- setting up and maintaining Yellow Pages service
- setting up and maintaining NFS
- network design issues
- setting up and maintaining subnets

Where to find it

A/UX Network System Administration is packed with other A/UX guides as part of the A/UX User and Administrator Manuals (order number M0676), available from your authorized A/UX dealer.

Where to go next

If you want more information about network theory or administering network software, you should see the documents listed in the appendix "Additional Reading" in *A/UX Network System Administration*.

If you are interested in developing network application software, you should read *A/UX Network Applications Programming*.

A/UX System Administrator's Reference

A/UX System Administrator's Reference presents the privileged commands and utility programs available to the system administrator and the network administrator. This guide corresponds to Sections 1M, 7, and 8 of the user manual traditionally distributed with UNIX systems.

- *Note:* As the system administrator, you also need the file format information presented in Section 4 in *A/UX Programmer's Reference*.

You should keep this reference at hand if you are the system administrator or network administrator at your site.

What's in it

This reference contains

- descriptions of privileged commands (Section 1M)
- descriptions of special files (Section 7)
- descriptions of system-maintenance procedures (Section 8)

Where to find it

A/UX System Administrator's Reference is packed with other A/UX guides and reference manuals as part of the A/UX Technical and Reference Manuals (order number M0694), available from your authorized A/UX dealer.

Programmer territory

Many users consider programming a forbidding task. If you are one of these users, or if you plan only to run utilities and applications rather than develop them, there is no reason to venture into programmer territory.

However, the UNIX operating system offers tremendous resources to the programmer. The A/UX documentation for these resources is more expansive than (and organized differently from) other types of UNIX reference sets. Three guides and a reference are available to assist the A/UX programmer:

- *A/UX Programming Languages and Tools, Volume 1*
- *A/UX Programming Languages and Tools, Volume 2*
- *A/UX Toolbox: Macintosh ROM Interface*
- *A/UX Programmer's Reference*

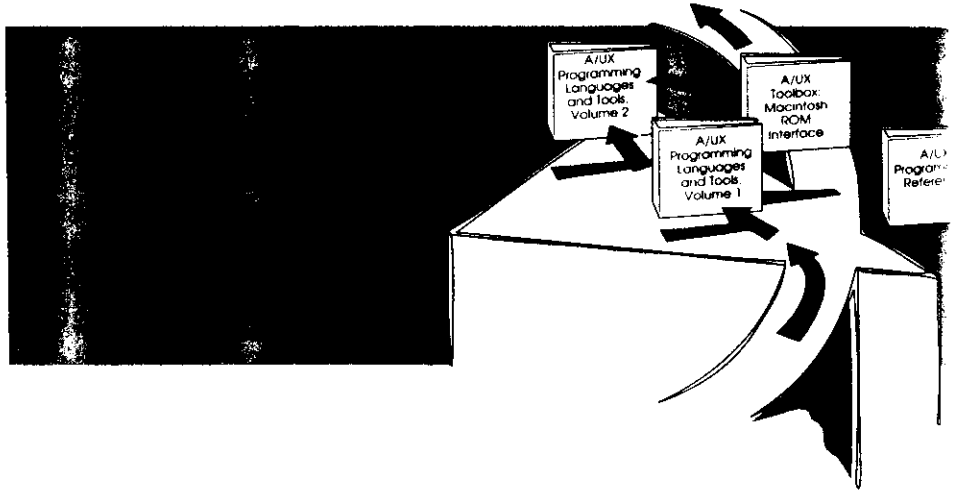
If you are not a UNIX programmer but aspire to be, you should read A/UX *Programming Languages and Tools, Volume 1,* and *A/UX Programming Languages and Tools, Volume 2.*

If you are a seasoned UNIX programmer and you want to add elements of the Macintosh User Interface to your programs, you should read *A/UX Toolbox: Macintosh ROM Interface.*

If you are a Macintosh programmer and you want your application to run with A/UX, you should read *A/UX Toolbox: Macintosh ROM Interface.*

If you are a seasoned UNIX programmer and you want your code to work in a POSIX environment, you should see *A/UX Programming Languages and Tools, Volume 1.*

If you are a seasoned UNIX programmer and you want to learn about more advanced programming topics, you may want to go on to developer territory.


A/UX Programming Languages and Tools, Volume 2
A/UX Toolbox: Macintosh ROM Interface
A/UX Programming Languages and Tools, Volume 1

Programmer territory

A/UX Programming Languages and Tools, Volume I

A/UX Programming Languages and Tools, Volume 1 is intended for the programming user. It describes the C and Fortran-77 programming languages, their accompanying subroutine libraries, and the utility programs related to C and Fortran program development.

By far, the bulk of programming for UNIX systems is done in the C language. Indeed, most of the A/UX system is written in the C language. C offers the ease of use of a high-level programming language, as well as the great degree of control found with a low-level language.

Fortran (whose name is derived from *formula translation*) is a language popular with programmers writing scientific and mathematical applications. A/UX offers the `f77` compiler for compiling programs written in the Fortran-77 language. It also offers the `efl` processor for translating Extended Fortran source code into Fortran-77 source code.

If you are not yet an A/UX programmer but want to be, you should read this guide.

If you are an experienced UNIX programmer and want your code to agree with POSIX standardization, you should see this guide.

If you can program in C or Fortran, and want to learn about the utility programs and libraries that complement the compilers and related tools, you should read *A/UX Programming Languages and Tools, Volume 2*.

If you are an experienced UNIX programmer, you may want to go on to developer territory. You should keep this guide at hand for quick access to programming information.

What's in it

This guide covers

- the A/UX programming environment
- the command syntax for the C compiler (`cc`)
- the C programming language, with implementation notes for Apple Computer hardware
- the standard C, math, and object libraries
- the command syntax for the Fortran compiler (`f77`)
- the Fortran programming language
- `efl`, an extended Fortran language
- other programming-language utilities, such as `lint`, the C program checker; `sdb`, the symbolic debugger; `as`, the assembler; and `ld`, the linkage editor
- the A/UX POSIX programming environment, for programming in conformance with the IEEE POSIX standard

Where to find it

A/UX Programming Languages and Tools, Volume 1 is packed with other A/UX guides and reference manuals as part of the A/UX Technical and Reference Manuals (order number M0694), available from your authorized A/UX dealer.

Where to go next

To learn how to add elements of the Macintosh User Interface to your programs, you should read *A/UX Toolbox: Macintosh ROM Interface*.

To learn about other A/UX programming tools, you should read *A/UX Programming Languages and Tools, Volume 2*.

A/UX Programming Languages and Tools, Volume 2

In addition to the compilers and their associated program-generating tools, A/UX offers utility programs and libraries that simplify creating or maintaining programs.

A/UX Programming Languages and Tools, Volume 2 describes those utility programs and libraries that are not related primarily to the assembler or to the C or Fortran programming languages. Each chapter describes a single utility program or library.

You should read this book if you want to expand your A/UX programming skills or if you want to learn about the wide variety of programming utilities in A/UX.

What's in it

This guide covers

- `make`, a program-maintenance tool
- SCCS, the Source Code Control System
- `awk`, a pattern-scanning language
- `lex`, a lexical analyzer
- `yacc`, a compiler-writing system
- `curses`, a terminal-independent screen I/O library
- `bc` and `dc`, languages for performing arithmetic calculations
- `m4`, a macro processor
- other tools and facilities, such as `ctrace`, `cb`, `strings`, and `ctags`

Where to find it

A/UX Programming Languages and Tools, Volume 2 is packed with other A/UX guides and reference manuals as part of the A/UX Technical and Reference Manuals (order number M0694), available from your authorized A/UX dealer.

Where to go next

If you want to learn how to add elements of the Macintosh User Interface to your programs, you should read *A/UX Toolbox: Macintosh ROM Interface*.

If you want to learn about more advanced programming topics, you may want to go on to developer territory.

A/UX Toolbox: Macintosh ROM Interface

A unique feature of A/UX is that it allows an application program to present the Macintosh User Interface to its users. To provide this service, the application uses the A/UX Toolbox. *A/UX Toolbox: Macintosh ROM Interface* describes what the A/UX Toolbox is, how to use the A/UX Toolbox to implement the Macintosh User Interface on applications that run under the A/UX operating system, and how to port existing Macintosh applications to A/UX.

If you have programmed with the Macintosh User Interface and want to port an application to A/UX or use elements of the Macintosh User Interface in your A/UX programs, you should read *A/UX Toolbox: Macintosh ROM Interface*.

If you want to use elements of the Macintosh User Interface in your A/UX programs but have not programmed with the Macintosh User Interface, you should read *Programmer's Introduction to Macintosh* before reading *A/UX Toolbox: Macintosh ROM Interface*. You should also have a copy of *Inside Macintosh*, Volumes I through V, available for reference. These two books are published by Addison-Wesley and are available at APDA™ and at retail book stores. (See Chapter 2 for information about APDA.)

What's in it

This guide covers

- the Toolbox utilities
- Macintosh-like resource files
- demonstration programs
- Macintosh and A/UX compatibility issues

Where to find it

A/UX Toolbox: Macintosh ROM Interface is packed with other A/UX guides and reference manuals as part of the A/UX Technical and Reference Manuals (order number M0694), available from your authorized A/UX dealer.

Where to go next

If you have not read *A/UX Programming Languages and Tools, Volume 2*, you should read it next.

If you want to learn about more advanced programming topics, you may want to go on to developer territory.

A/UX Programmer's Reference

A/UX Programmer's Reference is a reference to all library routines and related information required by programmers. It corresponds to Sections 2 through 5 of the user manual traditionally distributed with UNIX systems.

You should keep this reference at hand if you do any programming with A/UX.

What's in it

This reference contains

- descriptions of system calls (Section 2)
- descriptions of subroutines (Section 3)
- descriptions of file formats (Section 4)
- descriptions of miscellaneous facilities (Section 5)

Where to find it

A/UX Programmer's Reference is packed with other A/UX guides and reference manuals as part of the A/UX Technical and Reference Manuals (order number M0694), available from your authorized A/UX dealer.

Developer territory

Apple Computer publishes developer manuals, written for highly technical people who develop hardware and software products compatible with Apple products. Three guides are available to assist A/UX developers:

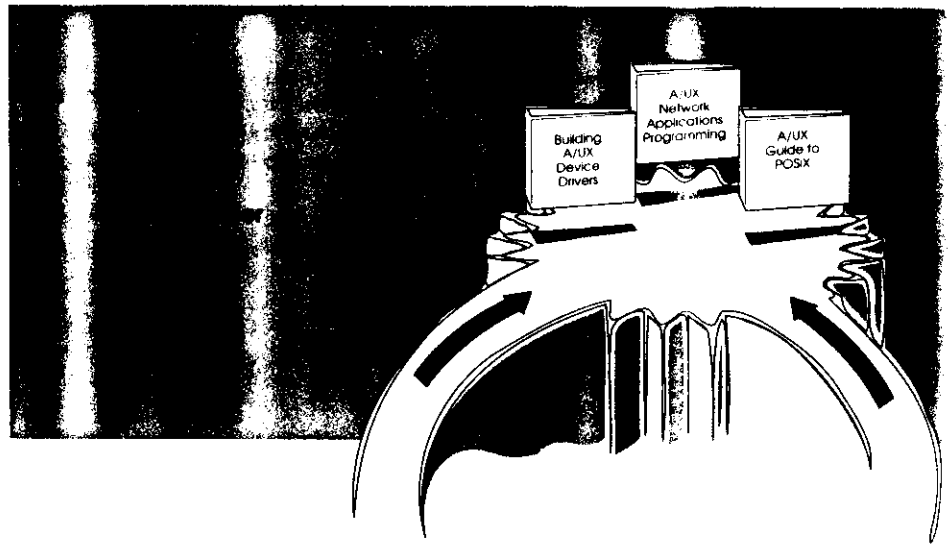
- *Building A/UX Device Drivers*
- *A/UX Network Applications Programming*
- *A/UX Guide to POSIX*

If you just want to use A/UX or its standard programming tools, you do not need these guides.

If you want to learn more about peripheral devices and how they interact with A/UX, you should read *Building A/UX Device Drivers*.

If you want to learn more about applications programming for a network environment, you should read *A/UX Network Applications Programming*.

If you want more information about developing applications using the A/UX POSIX development environment, you should read *A/UX Guide to POSIX*.



Developer territory

Building A/UX Device Drivers

Building A/UX Device Drivers describes how to build A/UX device drivers. Device drivers that adhere to the specifications described in this guide will automatically be integrated into the A/UX kernel upon system boot.

If you want to learn more about peripheral devices and how they interact with A/UX, you should read *Building A/UX Device Drivers*.

What's in it

This guide contains

- an overview of device drivers and the A/UX kernel programming environment
- descriptions of block device drivers and character device drivers
- descriptions of specific types of drivers, including terminal, network, slot, SCSI, and Apple Desktop Bus™ drivers
- an explanation of the use of the A/UX autoconfiguration feature
- a sample source code listing of an actual working device driver
- information about slot and kernel routines

Where to find it

Building A/UX Device Drivers is packaged with disks containing source code to several Apple-written device drivers. This product, called the *A/UX Device Drivers Kit*, is available from APDA. (See Chapter 2, "How to Order A/UX Publications," for an explanation of APDA.)

A/UX Network Applications Programming

A/UX Network Applications Programming describes the A/UX programming interfaces for the programmer who wishes to write network applications based on AppleTalk, network file system (NFS), Yellow Pages, and B-NET software.

If you want to learn more about applications programming for a network environment, you should read *A/UX Network Applications Programming*.

If you want to learn more about applications programming for an AppleTalk network environment, you should read *A/UX Network Applications Programming* after you read *Inside AppleTalk*, the definitive AppleTalk document, available from APDA. (See Chapter 2 for information about ordering from APDA.)

What's in it

This guide contains

- a programmer's introduction to AppleTalk
- a programmer's introduction to B-NET
- a programmer's introduction to the remote procedure call (RPC) interface
- specifications for various protocols, including RPC, NFS, and Yellow Pages (YP)
- a specification for the external data representation (XDR) protocol for data portability

Where to find it

A/UX Network Applications Programming is available from APDA. (See Chapter 2, "How to Order A/UX Publications," for an explanation of APDA.)

A/UX Guide to POSIX

The POSIX standard proposed by the Institute of Electrical and Electronics Engineers (IEEE) promises to be the first major UNIX standard accepted industry-wide. This proposed standard specifies a programming interface that guarantees source code compatibility among operating systems that comply with the standard. The name POSIX is loosely derived from the term *Portable Operating System Interface for Computer Environments* and the name *UNIX*. Apple Computer has embraced the POSIX standardization effort by implementing in A/UX the features described in the IEEE proposal.

A/UX Guide to POSIX, which is a short, terse document, explains details specific to the A/UX implementation of POSIX. It serves as a companion document to the POSIX trial-use standard (draft 12) published by the IEEE. Together, these two documents explain Apple's implementation of the features that embody the POSIX interface.

To understand the A/UX implementation of features defined in the POSIX proposal, you should read this guide in conjunction with the IEEE document *Portable Operating System Interface for Computer Environments*.

If you want to use the A/UX POSIX programming environment, you should keep this guide and the IEEE document *Portable Operating System Interface for Computer Environments* handy for reference. You should also read the POSIX-related material in *A/UX Programming Languages and Tools, Volume 1*.

What's in it

- POSIX implementation details specific to Apple hardware
- POSIX implementation details specific to A/UX and related software

Where to find it

A/UX Guide to POSIX is available from APDA. (See Chapter 2, "How to Order A/UX Publications," for an explanation of APDA.)

Other A/UX-related manuals

Apple Computer publishes other documents that are related to A/UX, but may be necessary for only a limited range of users. Other documents pertinent to A/UX are published by sources outside of Apple. Because such documents are not appropriate for most A/UX users, they may not be packaged with A/UX or with the A/UX documentation products. This section describes some of those manuals.

Road Map to A/UX Publications

This is the document you are reading.

Where to find it

Road Map to A/UX Publications is packed in the A/UX Accessory Kit that is part of every A/UX system. Your A/UX dealer is likely to have a copy. It is also available from APDA. (See Chapter 2, "How to Order A/UX Publications," for an explanation of APDA.)

Portable Operating System Interface for Computer Environments

Portable Operating System Interface for Computer Environments embodies the POSIX standard proposed by the Institute of Electrical and Electronics Engineers (IEEE). POSIX is expected to be the first major UNIX standard accepted industry-wide. The name POSIX is loosely derived from the term *Portable Operating System Interface for Computer Environments* and the name *UNIX*.

To understand the A/UX implementation of features defined in the POSIX proposal, you should read this document in conjunction with *A/UX Guide to POSIX*.

To use the A/UX POSIX programming environment, you should keep this document and *A/UX Guide to POSIX* handy for reference. You should also read the POSIX-related material in *A/UX Programming Languages and Tools, Volume 1*.

What's in it

This document covers

- specifications for operating-system-level interface details
- allowable implementation-specific deviations
- instructions for achieving compliance with the standard

Where to find it

Portable Operating System Interface for Computer Environments is published by the Institute of Electrical and Electronics Engineers. You can order it from that organization at

The Institute of Electrical and Electronics Engineers, Inc.
345 East 47th Street
New York, NY 10017-2394
USA

Specify Draft 12, number P1003.1, dated October 12, 1987.

X Window System User's Guide for A/UX

The X Window user interface (also called *X*), developed at the Massachusetts Institute of Technology, has become popular with UNIX users on many different types of computers. A/UX supports the X Window functionality through the Apple X Window System for A/UX, a separate Apple product. This product includes the interface and several applications, including

- window managers
- terminal emulators
- text-management and image-management tools
- programming utilities
- system-administration utilities

X Window System User's Guide for A/UX describes the installation and operation of the X Window interface to A/UX. It explains how to customize the interface to your preferences and describes the applications provided with the X Window System for A/UX.

What's in it

This guide covers

- installing the X system
- using the X system
- customizing the interface
- using the X applications

Where to find it

X Window System User's Guide for A/UX is part of Apple's X Window System for A/UX product (order number M0709A), sold separately from A/UX. This product includes the X Window software and another manual, *X Window Reference for A/UX*.

X Window Reference for A/UX

A/UX supports X Window functionality through the X Window System for A/UX, a separate Apple product. *X Window Reference for A/UX* contains the manual pages for the X Window System for A/UX.

What's in it

This reference covers

- reference pages for user commands
- reference pages for programmer subroutines
- a summary of X commands
- synopses of X commands
- a special index to commands, called a *permuted index*

Where to find it

X Window Reference for A/UX is part of Apple's X Window System for A/UX product (order number M0709A), sold separately from A/UX. This product includes the X Window System for A/UX software and another manual, *X Window System User's Guide for A/UX*.

Chapter 2

How to Order A/UX Publications

Manuals in the A/UX library are packaged so that each manual is readily available to the customers who need it most. This chapter shows the publications packages available and explains how to order them.

Documentation sources

You can get your Apple A/UX publications from two sources: authorized A/UX dealers and APDA. Each of these sources serves a specific audience. Other documents related to A/UX are available from other sources.

Authorized A/UX dealers

Many Apple dealers have taken specialized training to become authorized to sell and support A/UX. Your authorized A/UX dealer carries all the publications necessary for most sites. To find the A/UX dealer nearest to you, call 1-800-538-9696.

APDA

Some A/UX publications target an audience with technical needs outside the scope of most A/UX sites. For example, only a small percentage of sites become involved in writing device drivers. Manuals dealing with such highly technical subjects are sold separately. These manuals are available from APDA. APDA provides a wide range of technical products and documentation, from Apple and other suppliers, for programmers and developers who work on Apple equipment. For information about APDA, contact

APDA
Apple Computer, Inc.
20525 Mariani Avenue, Mailstop 33-G
Cupertino, CA 95014-6299

1-800-282-APDA, or 1-800-282-2732
Fax: 408-562-3971
Telex: 171-576
AppleLink: APDA

If you plan to develop hardware or software products for sale through retail channels, you can get valuable support from Apple Developer Programs. Write to

Apple Developer Programs
Apple Computer, Inc.
20525 Mariani Avenue, Mailstop 51-W
Cupertino, CA 95014-6299

Sources for related documents

Documents related to A/UX but not part of the A/UX documentation are available from other sources. For example, ***Inside Macintosh*** is available in retail bookstores that carry technical books, and ***Portable Operating System Interface for Computer Environments*** is available from the IEEE. To find the source for these related documents, see the next section, "The Right Sources for Your Books," or the description of that document in Chapter 1 of this Road Map.

The right sources for your books

Table 2-1 shows which sources carry which books.

Table 2-1
A/UX documentation sources

Title	Source	Product
A/UX Command Reference (A-L)	Dealer	M0694B
A/UX Command Reference (M-Z and Games)	Dealer	M0694B
A/UX Communications User's Guide	Dealer	M0676B
A/UX Guide to POSIX	APDA	---
A/UX Installation Guide	Dealer	M0693B
A/UX Local System Administration	Dealer	M0676B
A/UX Network Applications Programming	APDA	---
A/UX Network System Administration	Dealer	M0676B
A/UX Programmer's Reference	Dealer	M0694B
A/UX Programming Languages and Tools, Volume 1	Dealer	M0694B
A/UX Programming Languages and Tools, Volume 2	Dealer	M0694B
A/UX Release Notes	Dealer	M0693B
A/UX System Administrator's Reference	Dealer	M0694B
A/UX Text Editing Tools	Dealer	M0676B
A/UX Text Processing Tools	Dealer	M0676B
A/UX Toolbox: Macintosh ROM Interface	Dealer	M0694B
A/UX User Interface	Dealer	M0676B
Building A/UX Device Drivers	APDA	---
Getting Started With A/UX	Dealer	M0676B
Inside AppleTalk	Dealer, APDA, Other	---

(continued)

Table 2-1 (continued)
A/UX documentation sources

Title	Source	Product
Inside Macintosh	Dealer, APDA, Other	---------
Portable Operating System Interface for Computer Environments	Other	---------
Programmer's Introduction to the Macintosh	Dealer, APDA, Other	---------
ReadMe file	Dealer	M0693B
Road Map to A/UX Publications	Dealer	M0693B
X Window System User's Guide for A/UX	Dealer	M0709A
X Window Reference for A/UX	Dealer	M0709A

Sources designated as Other include various retail book stores. Refer to the "Where To Find It" information in the appropriate section in Chapter 1.

Mainstream A/UX manuals

The main set of A/UX documentation consists of publications that most A/UX sites use regularly. This main set of documents is divided among three packages:

- the A/UX software product, order number M0693B
- the A/UX User and Administrator Manuals, order number M0676B
- the A/UX Technical and Reference Manuals, order number M0694B

Part of the A/UX software product is an A/UX Accessory Kit. This accessory kit contains four essential pieces of A/UX documentation:

- *A/UX Installation Guide*
- *A/UX Release Notes*
- *A/UX ReadMe* file
- *Road Map to A/UX Documentation*

The other two packages contain the rest of the A/UX manuals necessary for A/UX sites that have no unusual needs. One of these two packages contains user and administrator guides; the other contains technical guides and reference manuals.

User and administrator guides

The A/UX User and Administrator Manuals product contains manuals for the user and local administrator. The order number for this product is M0676B. Figure 2-1 shows this product.

- *Note:* The manual pages, which detail A/UX commands, are often necessary for the end user. These manual pages are in the reference manuals packaged in the A/UX Technical and Reference Manuals product; they are not in the A/UX User and Administrator Manuals product. However, the electronic versions of all A/UX manual pages are part of the standard A/UX software distribution and are thus available on-line. The `man` and `apropos` commands, entered with the name of any other A/UX command, locate and display this on-line reference material for that command on your screen.

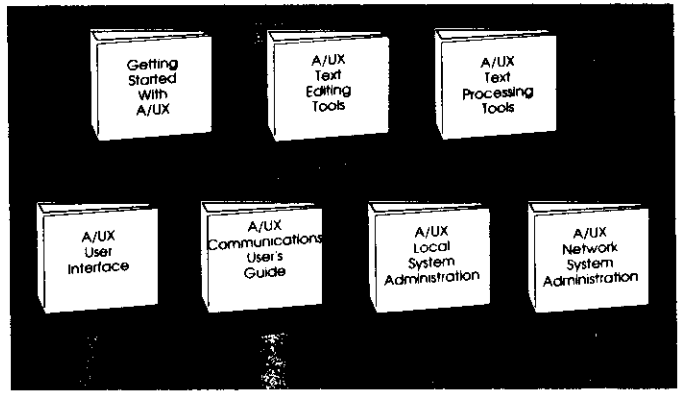


Figure 2-1
A/UX User and Administrator Manuals product

Technical guides and reference manuals

The A/UX Technical and Reference Manuals product contains manuals for programmers and advanced A/UX users. The order number for this product is M0694B. Figure 2-2 shows this product.

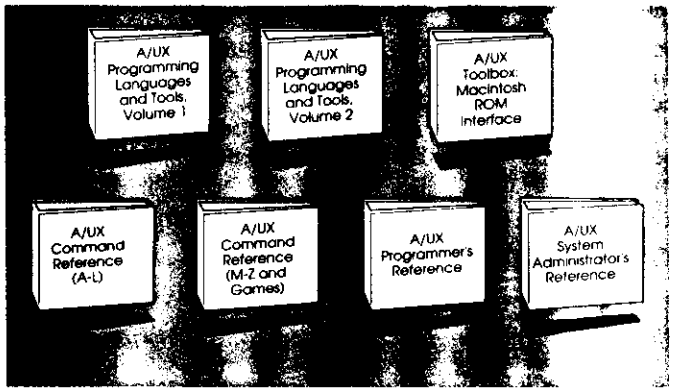

A/UX Programming Languages and Tools, Volume 1
A/UX Programming Languages and Tools, Volume 2
A/UX Toolbox: Macintosh ROM Interface
A/UX Command Reference (A-L)
A/UX Command Reference (M-Z and Games)
A/UX Programmer's Reference
A/UX System Administrator's Reference

Figure 2-2
A/UX Technical and Reference Manuals product

Specialized A/UX manuals

To limit publications costs to customers, Apple does not bundle specialized publications with the mainstream A/UX publications. Specialized publications about such esoteric subjects as designing and writing device drivers are distributed through APDA. Currently, three A/UX manuals are available through APDA:

- *Building A/UX Device Drivers*
- *A/UX Network Applications Programming*
- *A/UX Guide to POSIX*

APDA also distributes popular manuals published by other companies about Apple products. You can consult the APDAlog, a quarterly newsletter and catalog published by APDA, to find books about A/UX and related products.

A/UX-related manuals from Apple

Apple Computer sells products that are related to A/UX but are not part of the standard A/UX distribution. The manuals for such a product are packaged with the product or sold by APDA. The X Window System for A/UX is an example of this type of product. Apple publishes two X Window manuals, both of which are packaged with the X Window System software:

- *X Window System User Guide for A/UX*
- *X Window System Reference for A/UX*

Your authorized A/UX dealer carries the X Window System for A/UX.

Index

A

additions to the system
  A/UX Release Notes and 1-4
  ReadMe file and 1-5
administrator guides 1-17, 2-5
APDA 2-2
Apple Desktop Bus 1-30
Apple Developer Programs 2-2
AppleTalk
  programmer's introduction to 1-31
  setting up and using 1-20
Apple X Window System 1-35
application porting 1-27
`apropos` command 1-1
arithmetic calculations, languages for 1-26
AT&T UNIX System V Release 2 ix
authorized A/UX dealers 2-1
A/UX Accessory Kit 2-4
A/UX Command Reference 1-15
A/UX Communications User's Guide 1-13
A/UX Guide to POSIX 1-32
A/UX Installation Guide 1-7
A/UX Local System Administration 1-18 to 1-19
A/UX Network Applications Programming 1-31
A/UX Network System Administration 1-20
A/UX Programmer's Reference 1-28
A/UX Programming Languages and Tools, Volume 1 1-24 to 1-25
A/UX Programming Languages and Tools, Volume 2 1-26
A/UX ReadMe disk 1-5. *See also* ReadMe file.
A/UX Reference Summary and Index 1-16
A/UX Release Notes 1-3, 1-4
A/UX System Administrator's Reference 1-21
A/UX Text Editing Tools 1-11
A/UX Text Processing Tools 1-14
A/UX Toolbox: Macintosh ROM Interface 1-27
A/UX Toolbox utilities 1-9
A/UX User Interface 1-12
`awk` 1-26

B

backup procedures 1-18
Berkeley Software Distribution (BSD) ix
block device drivers 1-30
B-NET (TCP/IP) 1-31
books. *See* documentation.
Bourne shell 1-12
BSD (Berkeley Software Distribution) ix
Building A/UX Device Drivers 1-30

C

changes to the system
  A/UX Release Notes and 1
  ReadMe file and 1-5
character device drivers 1-30
C language 1-24
commands, summary of 1-16
compiler-writing system (yacc) 1-26
C shell 1-12
`cu` utility 1-13

D

dealers, authorized A/UX 2-1
developer manuals 1-29
device drivers 1-30
documentation
  A/UX-related manuals from Apple 2-7
  mainstream A/UX manuals 2-4
  product numbers for 2-3 to
  reference manuals 2-6
  sources for 2-1 to 2-4
  specialized manuals 2-6
  technical guides 2-6
  user and administrator guides 2-5

E

`ed` editor 1-11
editors 1-11
`efl` processor 1-24

030-3361-A

eqn program 1-14
error messages 1-18
ex editor 1-11
Extended Fortran code 1-24
external data representation (XDR) protocol 1-31

F

f77 compiler 1-24
file formats 1-28
file-system checking 1-18
Fortran-77 1-24

G

games 1-15
Getting Started With A/UX 1-8 to 1-9
glossary of terms 1-9
graph-drawing program (grap) 1-14
grap program 1-14

H

hardware installation 1-7
hierarchical file system 1-9

I

index to commands 1-16
Inside Macintosh 1-27, 2-2
I/O library 1-26

K

kernel
  programming environment and device drivers 1-30
  warning and error messages 1-18
Korn shell 1-12

L

lex program 1-26
libraries for programmers 1-26, 1-28
line-drawing program (pic) 1-14

M

Macintosh Operating System, tutorial for 1-9
mail program
  and *A/UX Communications User's Guide* 1-13
  and *Getting Started With A/UX* 1-9
mainstream A/UX manuals 2-4
make program 1-26
man command, and on-line documentation 1-1
manuals. *See* documentation.
mathematics typesetting program (eqn) 1-14
messages, for the kernel 1-18
mm macro package 1-14
ms macro package 1-14

N

Network File System (NFS)
  programmer's introduction to protocols 1-31
  setting up and maintaining 1-20
networking topics
  A/UX Communications User's Guide and 1-13
  device drivers and 1-30
  Network System Administration and 1-20
NFS. *See* Network File System
nroff utility 1-14

O

on-line documentation 1-1
ordering of publications 2-1 to 2-2

P

pattern-scanning language (awk) 1-26
peripheral devices
  Building A/UX Device Drivers 1-30
  management of 1-18
pic program 1-14
Portable Operating System Interface for Computer Environments (POSIX) 1-32, 1-34, 2-2
porting applications 1-27
POSIX (*Portable Operating System Interface for Computer Environments*)
  A/UX Guide to POSIX 1-32
  C language and 1-24
privileged commands 1-21
product numbers 2-3 to 2-4
Programmer's Introduction to Macintosh 1-27
programmer's manuals 1-22 to 1-23
protocols 1-31
publications. *See* documentation.

R

ReadMe file 1-3, 1-5
reference manuals 2-6
Release Notes 1-3
remote login 1-13
remote procedure call (RPC) interface 1-31
road map, illustration of 1-2
Road Map to A/UX Publications 1-33
routines, summary of 1-16
RPC (remote procedure call) interface 1-31

S

SCCS (Source Code Control System) 1-26
SCSI (Small Computer System Interface) device driver 1-30
sed editor 1-11
setting up A/UX 1-6 to 1-7
shells 1-12
shell scripting 1-12
shl program 1-12
slip (serial line interface protocol) 1-13
slot device drivers 1-30
software installation and configuration 1-7
Source Code Control System (SCCS) 1-26
special files 1-21
subnets 1-20
subroutines 1-28
  C language 1-24
System V Release 2 (AT&T UNIX) ix
system accounting 1-18
system activity package 1-18
system calls 1-28
system-maintenance procedures 1-21

T

table-formatting program (tbl) 1-14
tbl program 1-14
TCP/IP (B-NET) protocol
  A/UX Communications User's Guide and 1-13
  setting up and using 1-20
technical guides 2-6
terminals
  device drivers for 1-30
  terminal-independent screen I/O library 1-26
text-formatting utilities 1-14
tour of A/UX 1-9
troff utility 1-14
tutorials 1-9

U

updates 1-3
user and administrator guides 2-5
user guides and reference manuals 1-10
utility programs and libraries 1-26
uucp program 1-13
  setup and administration for 1-18

V

vi editor
  A/UX Text Editing Tools and 1-11
  Getting Started With A/UX and 1-9

W

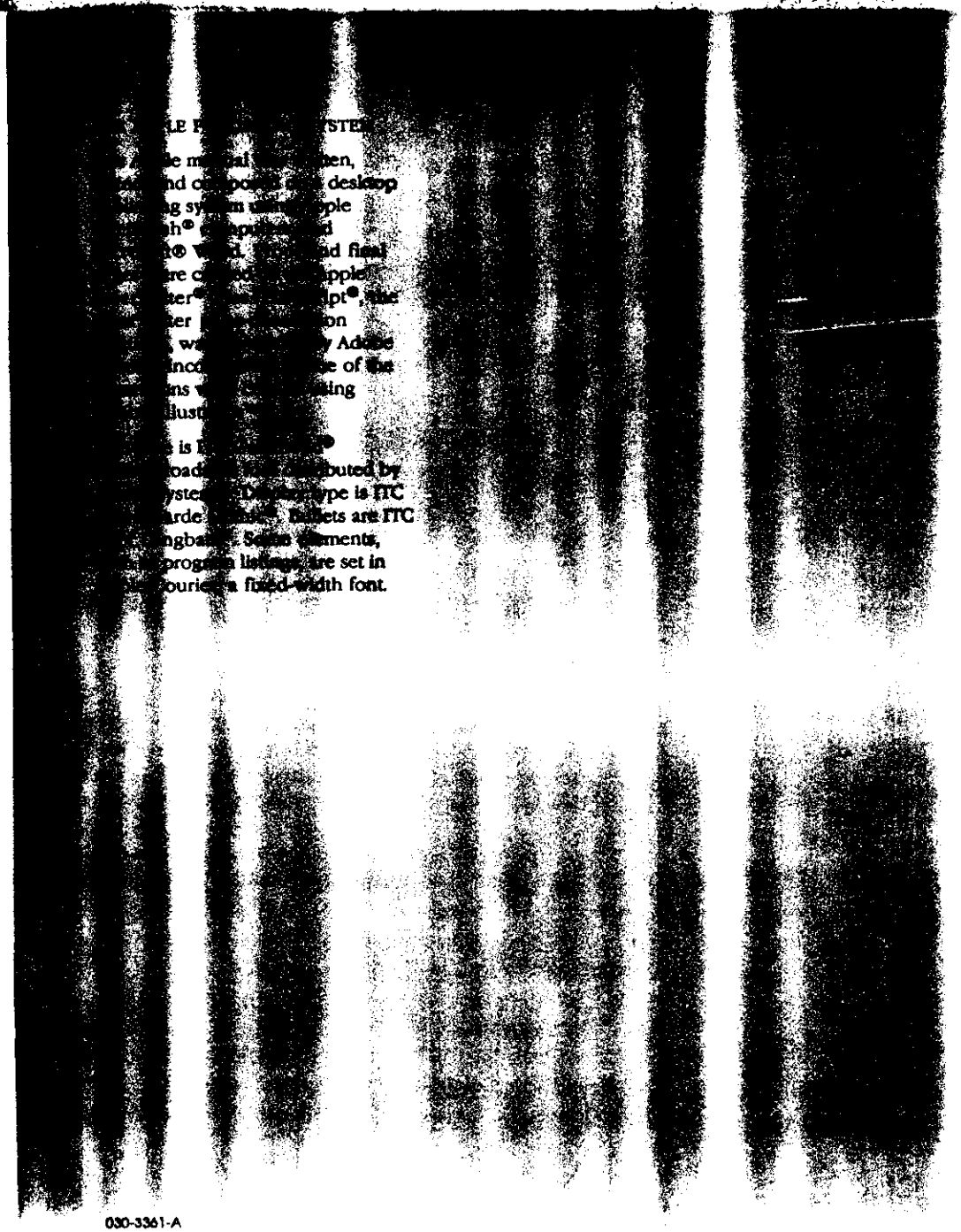
warning messages 1-18
windows 1-35, 1-36

X

XDR (external data representation) protocol 1-31
X Window Reference for A/UX 1-36
X Windows Systems User's Guide for A/UX 1-35

Y

yacc 1-26
Yellow Pages
  protocols 1-31
  setting up and maintaining 1-20



030-3361-A

030-3361-A